PITTSBURGH SUPERCOMPUTING CENTER RETIREMENTS

HON. MICHAEL F. DOYLE

OF PENNSYLVANIA

IN THE HOUSE OF REPRESENTATIVES

Wednesday, February 14, 2018

Mr. MICHAEL F. DOYLE of Pennsylvania. Mr. Speaker, I rise today to note a major milestone in the life of the Pittsburgh Supercomputing Center, a federally supported research facility in southwestern Pennsylvania. Three people responsible for founding and building the Pittsburgh Supercomputing Center are retiring after many years of stellar leadership there.

The Pittsburgh Supercomputing Center, an institution established and managed by Carnegie Mellon University and the University of Pittsburgh, provides both public and private-sector researchers nationwide with access to high-performance computers for unclassified research. The Pittsburgh Supercomputing Center is also a leading partner in the Extreme Science and Engineering Discovery Environment, the National Science Foundation's cyber-infrastructure program.

The Pittsburgh Supercomputing Center was founded in 1986 by two physicists, Michael Levine from Carnegie Mellon University and Ralph Roskies from the University of Pittsburgh, along with Jim Kasdorf, the Manager of Engineering Computer Services at Westinghouse. They believed that the Pittsburgh region needed a national high-performance computing center run by and for researchers.

Working with leading-edge suppliers, co-directors Levine and Roskies attracted and fostered a team that has designed and built highly advanced and productive high-performance computing systems. Back in 1986, Jim Kasdorf was the Manager for Engineering Computer Services at Westinghouse, where he was responsible for everything—planning, computer acquisition, systems programming, day-to-day operations, and user support. Despite those demands, he also took on spearheading Westinghouse's support for the new facility. Jim eventually joined the Pittsburgh Supercomputing Center as Director of Special Projects, where he assisted with ongoing funding opportunities and technology developments.

The Pittsburgh Supercomputing Center rapidly earned a reputation for acquiring, installing, and deploying systems that were ''serial number 1'' or ''serial number 2'' and/or the first to ship to a customer, making it a highly productive research leader. As a result, each new system enabled a new generation of research to be conducted:

In 1987, Levine and Roskies established a biomedical group that created a unique resource for exploring the subcellular structure of the nervous system and also developed unique capabilities in the growing field of bioinformatics and spawned formal graduate and undergraduate programs across the country.

In the 1990s, Roskies personally made arrangements for time to be set aside on the center's Cray C90 for tornado prediction efforts that led to today's tornado predictions—the first time a supercomputing center had dedicated time to a single application for such societally important, time-sensitive work.

In 2001, the Pittsburgh Supercomputing Center's Terascale Computing System ranked number 2 on the Top 500 list of the world's most powerful computing systems.

In 2010, the Pittsburgh Supercomputing Center formed an internationally respected Public Health Applications Group.

Today, the Pittsburgh Supercomputing Center's systems have increasingly focused on Big Data analytics, empowering a new generation of research in artificial intelligence, the life sciences, the social sciences, and the digital humanities.

The retirement of these three pioneers from their leadership posts at the Pittsburgh Supercomputing Center offers an occasion for reflecting on their role in furthering the science of high-performance computing, expanding STEM and economic opportunities in the Commonwealth of Pennsylvania and contributing to the region's expanding role as a hotspot for computing innovation.

The Pittsburgh Supercomputing Center's work has had a profound impact on the Western Pennsylvania region and the Commonwealth as a whole. The Pittsburgh Supercomputing Center has established a tradition of using the latest information technologies for the advancement of research, education and corporate competitiveness in the region and the state. The Pittsburgh Supercomputing Center's culture of encouraging innovation and entrepreneurial activity enabled the creation of the Three Rivers Optical Exchange, which today provides high-bandwidth research networking and/or low-cost commodity Internet to a growing list of institutions in the region and the Commonwealth of Pennsylvania, including universities, research facilities and high schools.

To help build the region's STEM workforce, the Pittsburgh Supercomputing Center offers educational programs for students and teachers at the K–20 level. Open education resource materials (available on the Pittsburgh Supercomputing Center website at www.psc.edu) are offered online as well as by many of these programs. The Bioinformatics Education for program STudents exposes teachers to modem molecular biology concepts by incorporating computational biology and bioinformatics into high school curricula. The Bioinformatics Education for program STudents curriculum has been adopted at 15 regional high schools.

In economic impact, the Pittsburgh Supercomputing Center has brought over $500 million in outside funds into Pennsylvania, empowering high-performance computing-driven research findings at Carnegie Mellon and Pitt, as well as many of the region's other universities. The Pittsburgh Supercomputing Center has been responsible for generating 1,600 jobs and over $200 million in annual economic activity. The Pittsburgh Supercomputing Center's impact also includes helping to meet the Commonwealth of Pennsylvania's need for a growing STEM workforce.

In addition to supporting the Commonwealth of Pennsylvania, the Pittsburgh Supercomputing Center has put the state ''on the map'' in the high-performance computing community. The Pittsburgh Supercomputing Center has innovated high-performance computing software and architecture that has helped drive research around the world. The Pittsburgh Supercomputing Center's work in networking has helped provide the critical connections that enable researchers to make productive use of powerful resources that their individual institutions would never be able to afford. Pittsburgh Supercomputing Center software researchers have created a family of open-source tools that are helping to power Big Data analytics on a similar scale. Its biomedical and Public Health groups are fueling the fine-scale exploration of brain structure and revolutionizing public health efforts by optimizing medical supply delivery and revealing how offering people more options can encourage vaccination. And its championing of the creation of supercomputers tailored to new communities of researchers with Big Data needs—typified by the new Bridges system, which has set new standards for accessibility to researchers without supercomputing experience—have supercharged research efforts in fields that never before used high-performance computing.

This innovative approach to high-performance computing has touched scientists, engineers, and humanities researchers across the country and the world. In collaborations such as the Extreme Science and Engineering Discovery Environment, the National Science Foundation's network of supercomputing centers, the Pittsburgh Supercomputing Center has played a leading role, providing computational, storage, and human resources that continue to power research projects coast to coast. The result has been a host of tremendous scientific advances made possible by its high-performance computing systems.

In the educational sphere, the Pittsburgh Supercomputing Center's NIH-funded Minority Access to Research Careers bioinformatics program helped 12 minority-serving institutions across the country institute classes or full curriculums in bioinformatics, preparing their students for 21st-century life sciences careers; the Minority Access to Research Careers program's summer institute offered summer recess projects to undergraduate and graduate students at these institutions as well.

Levine and Roskies created an environment for innovation at each stage: assembling the team that won the first National Science Foundation award; hiring key people with unique skills; and then empowering them to make innovative contributions. Their 31 years of service in leading the Pittsburgh Supercomputing Center fostered a community of scientific and computing researchers that enable scientific discovery by re-thinking the architecture and software of the systems they make available.

I want to commend Dr. Levine, Dr. Roskies, and Mr. Kasdorf for their more than 30 years of important contributions to science and the economy of Southwestern Pennsylvania. I want to congratulate them on a well-earned retirement and wish them the best in the years ahead.

IN HONOR OF MINISTER OLLIE W. TARVER

HON. SANFORD D. BISHOP, JR.

OF GEORGIA

IN THE HOUSE OF REPRESENTATIVES

Wednesday, February 14, 2018

Mr. BISHOP of Georgia. Mr. Speaker, I rise today to extend my sincerest congratulations and Happy Birthday wishes to a dedicated woman of God, community servant, and friend of longstanding, Minister Ollie W. Tarver, who is celebrating her 82nd birthday on Saturday,